

amended. A one-month extension of time is requested in order that this response be considered timely filed within the fourth month from the date of mailing of the Official Action.

AMENDMENT TO THE SPECIFICATION

1. On page 2 at lines 8-23, in the first complete paragraph on the page, please delete the existing text and replace it with the following therefor:

B1

The present invention is directed to an improved, liquid aqueous hard surface cleaner containing a fluoropolymer having a molecular weight of no less than 5,000, further containing preferably a nonionic surfactant, optionally, a quaternary ammonium compound, a chelating agent/buffer and water. The foregoing are combined to provide enhanced cleaning of hard surfaces, in which the thus cleaned surface is rendered soil and stain repellent. Surfaces treated with the improved, liquid aqueous hard surface cleaner, especially vitreous hard surfaces, such as porcelain, glazed tile surfaces, marble, granite, other stone, grout, wood, leather, glass, mirrors or other, shiny metallic surfaces (or other hard, glossy surfaces, whether made of natural or composite materials), and the like, are rendered brighter and shinier in appearance. More importantly, though, in the case of vitreous surfaces such as toilet bowls and urinals, which are subject to hard water staining due to high metal content (egs., iron and calcium, perhaps also, manganese ions) in the flush water, the inventive hard surface cleaner leaves a film or other treatment which renders such surfaces highly repellent to soils and stains, namely from such metals.

2. On page 4 at lines 17-22, in the first complete paragraph on the page, please delete the existing text and replace it with the following therefor:

B2

The present invention is directed to an improved, liquid aqueous hard surface cleaner containing a fluoropolymer having a molecular weight of no less than 5,000, further containing preferably a nonionic surfactant, optionally, a quaternary ammonium compound, a chelating agent/buffer and water. The foregoing are combined to provide enhanced cleaning of hard surfaces, in which the thus cleaned surface is rendered soil and stain repellent.

3. On page 5 at lines 1-21, in the first partial paragraph on the page, please delete the existing text and replace it with the following therefor:

B3

invention, the applicable fluoropolymers, do not completely replace the aliphatic hydrogens with fluoride, as in polytetrafluoroethylene. Alternatively, it is believed that the fluoropolymers must be at least partially substituted with water solubilizing groups, such as, without limitation, carboxyl, amido, sulfonato, ethoxyl, propoxyl and the like. It is thus believed that the fluoropolymers must be at least water-dispersible, and preferably, are at least sparingly water-soluble. These types of fluoropolymers include fluorinated substituted urethanes (such as Zonyl® 7910 from E.I. du Pont de Nemours and Co., hereinafter, "DuPont"), and perfluoroalkylmethacrylic copolymers (such as Zonyl® 8740 from DuPont. Pertinently, because these compounds are fluoropolymers, they will enhance the rheology of the liquid cleaners of the invention and will not require additional thickeners, as in Can. Patent 2,201,406. Moreover, after application to a stained surface, such as toilet with hard water or heavy metal stains, the cleaner not only cleans the stains, but the fluoropolymers in the cleaner beneficially appear to lay down a film which repels, prevents or mitigates further staining due to the hard water. This is a significant and surprising benefit of the inventive cleaner. The amount of fluoropolymer should be added preferably in amounts of about 0.01 to 25% by weight, more preferably about 0.01 to about 15% by weight, and most preferably, about 0.01 to about 5% by weight. The addition should be relatively sparing (owing to its costs), and so amounts as low as up to 2.5% are especially favored.

AMENDMENTS TO THE CLAIMS

Please delete existing Claim 1 and replace it with the following therefor:

- B4
1. (2X amended) An improved liquid aqueous hard surface cleaner, comprising:
- (a) a water-dispersible fluoropolymer having a molecular weight of at least 5000 Daltons;
 - (b) a surfactant; and
 - (c) a chelating agent/buffer;